THIRD VOCALS Science MEETING

March 21-23 2011, University of Miami, Florida

AGENDA

Monday 21st March

09:00-10:00: Plenary Session: Welcome and VOCALS Status

09:00-09:10: Mechoso, C R and R Wood: Welcome

09:10-09:30: Wood, R and C R Mechoso: Summary of VOCALS, meeting goals and organization

09:30-09:45: Bretherton, C.: A synthesis of published VOCALS studies on marine boundary layer and cloud structure along 20S

09:45-10:00: Coe, H: A synthesis of studies on particulate composition in the VOCALS-REx region

10:00-10:30: BREAK

10:30-12:00: THEME 1: PBL and Clouds

10:30-10:45: Brenguier, J: Optical thickness and liquid water path: k coefficient aerosol/cloud/radiation

10:45-11:00: Berner, A: LES Modeling of VOCALS RF06: Dynamics, Entrainment, and Microphysical Feedbacks

11:00-11:15: Leon, D: Drizzle and mesoscale organization in SEP stratocumulus

11:15-11:30: Brewer, A: Characterization of sub-cloud vertical velocity distributions and precipitation-driven outflow dynamics using a ship-based, scanning Doppler lidar during VOCALS-Rex

11:30-11:45: de Szoeke, S: Vertical structure and surface radiative effects of marine stratocumulus clouds from 7 years of ship observations

11:45-12:00 Poster summaries (Bretherton, Zuidema, Wilcox)

12:00-13:00: LUNCH AND POSTER VIEWING

13:00-15:00: THEME 1: PBL and Clouds

13:00-13:15: Fairall, C: Cloud microphysics and turbulence from the PSD Wband Radar and the CSD Lidar

13:15-13:30: Mechem, D: Numerical simulation of heavily drizzling cloud regimes in VOCALS

13:30-13:45: Yuter, S: Observations of the life cycle of marine stratocumulus drizzle cells

13:45-14:00: Burleyson, C: Observations of the diurnal cycle of marine stratocumulus clouds and precipitation

14:00-14:15: Zheng, X: Boundary layer, cloud, and aerosol variability in the southeast Pacific coastal marine stratocumulus during VOCALS-REx

14:15-14:30: Theme 1 Discussion

14:30-14:45: Theme 1 Discussion

14:45-15:00: Theme 1 Discussion

15:00-15:30: BREAK

15:30-17:30: THEME 2: Gases, Aerosols and Cloud Related Processes

15:30-15:45: Clarke, A: Aerosol Dynamics over the VOCALS region: Sources, Entrainment, Nucleation and CCN

15:45-16:00: Anderson, J: Transport and mixing of polluted aerosols above and below cloud during VOCALS-Rex from an individual-particle perspective

16:00-16:15: Huebert, B: DMS as an integrator of dynamic, chemical, and biological processes during VOCALS

16:15-16:30: Kazil, J: Chemical, aerosol, and cloud processes in closed and open cells

16:30-16:45: George, R: Using WRF-Chem to understand interactions between synoptic and microphysical variability during VOCALS

16:45-17:00: Yang, Q: Investigating impacts of aerosols on marine stratocumulus clouds observed during VOCALS-Rex using WRF-Chem simulations

17:00-17:15: Poster Summaries (Matrai, Clarke for Shank, Clarke for Freitag)

17:15-17:30: Poster Summaries (Gadian (1), Terai (1), Terai (2))

Tuesday 22nd March

08:30-10:00: Theme 2. Gases, Aerosols and Cloud Related Processes

08:30-08:45: Wood, R: Precipitation as a driver of cloud droplet concentration variability along 20S

08:45-09:00 Brunke, M: Investigations of aerosol-cloud-precipitation processes in observations and models at The University of Arizona

09:00-09:15 Jensen, J: Variability of giant sea-salt aerosol particles during the VOCALS campaign

09:15-09:30: Painemal, D: Remote sensing investigation of the first aerosol indirect effect during VOCALS-REx

09:30-09:45 Spak, S: Simulating aerosol radiative forcing and impacts on marine stratocumulus

09:45-10:00 Poster Summaries (Goubanova, Gadian (1), Gadian (2))

10:00-10:30: BREAK

10:30-11:15: Theme 2. Gases, Aerosols and Cloud Related Processes

10:30-10:45: Theme 2 Discussion

10:45-11:00: Theme 2 Discussion

11:00-11:15: Theme 2 Discussion

11:15-12:00: Theme 3. Upper Ocean Physics and Biology. Eddies, Air-Sea Interaction

11:15-11:30: Putrashan, D: SST-wind stress coupling and impact of mesoscale SST features on atmospheric boundary layer off the coast of Peru and Chile

11:30-11:45: Subramanian, A: Results from data assimilation experiments and adjoint sensitivity studies in the South East Pacific.

11:45-12:00: Poster Summaries (Bretherton for Wang, Holte)

12:00-13:00: LUNCH AND POSTER VIEWING

13:00-14:00 Theme 3. Upper Ocean Physics and Biology. Eddies, Air-Sea Interaction

13:00-13:15: Fairall, C: Surface fluxes in the VOCALS region

13:15-13:30: Zappa, J: Measurements of upper-ocean turbulence and air-sea interaction during VOCALS REx

13:30-13:45: Farrar, T: Influence of oceanic processes on SST and upper-ocean heat content

13:45-14:00: Grados, C: From large-scale to submesoscale dynamics in the VOCALS region

14:00-15:00: Theme 4. Modeling and Basic Issues

14:00-14:15: de Szoeke, S: Simulation of Surface Fluxes in the Tropical Pacific

14:15:14:30: Mechoso, C R: A discussion of the processes that maintain a cool ocean surface under the stratus decks of the Southeast Pacific

14:30-14:45: Medeiros, B: Southeast Pacific stratocumulus in CAM4 and CAM5

14:45-15:00: Abel, S: The representation of drizzle in the Met Office Unified Model

15:00-15:30: BREAK

15:30-15:45: Barrett, P: Boundary layer thermodynamics and decoupling in the South Eastern Pacific along 20 South

15:45-16:00: Allen, G: Gravity waves observed as a causal mechanism for transition from closed to open cellular convection in the remote South East Pacific

16:00-16:15: Garreaud, R.: Climatology of the VOCALS region and diurnal cycle

16:15-16:30: Toniazzo, T: Processes regulating the seasonal changes in the SEP during the Southern Hemisphere spring

16:30-16:45: Garrreaud, R: VOCALS-CUpEx: The Chilean Upwelling Experiment

16:45-17:00: Bretherton, C: VOCA

17:00-17:15: Themes 3 and 4 Discussion

17:15-17:30: Themes 3 and 4 Discussion

Wednesday 23rd March

08:30-10:00: Plenary Session - Rapporteur Presentations

The rapporteurs will review notable findings in the context VOCALS hypotheses. Have they been verified? What work remains to be done?

08:30-08:55: **Theme 1**
08:55-09:20: **Theme 2**
09:20-09:45: **Theme 3**
09:45-10:10: **Theme 4**

10:10-10:30: BREAK

10:30-12:00: Plenary Session – Wrap-Up

10:30-10:45: Meitin, J: VOCALS Support Office
10:45-11:00: Williams, S: The VOCALS Database
11:00-11:10: Agency Representatives (M. Patterson US CLIVAR…)
11:10-12:00: General Discussion**: Publications? Future Activities?** [Wood/Mechoso]

Noon: Meeting Closes

Session Chairs/Rapporteurs

Theme 1. PBL and Clouds [Bretherton, Zuidema]
Theme 2. Gases, aerosols and Cloud related Processes [Coe, Clarke]
Theme 3. Upper Ocean Physics and Biology. Eddies, Air-Sea Interaction [Farrar, Grados]
Theme 4. Modeling and Basic Issues (Garreaud, deSzoeke)

Poster Session

Posters will be on display on Monday and Tuesday

Bretherton, C.: Marine boundary layer decoupling in VOCALS-REx

Freitag, S.: Trajectory Visualizations of In-situ Tracers of Continental Aerosol Sources in Google Earth: Relationships to Aerosol and Clouds over the SEP

Gadian, A.: Numerical modelling of a stratocumulus over the South-East Pacific with WRF. (1)

Gadian, A.: Numerical modelling and observation of the cloud aerosol interactions. (2)

Goubanova, K.: Modes of covariability between SST and wind stress intraseasonal anomalies in the Humboldt and Benguela upwelling systems

Holte, J.: Eddy Observations from VOCALS-REx.

Matrai, P.: Title not available.

Shank, L.: Organic carbon and non-refractory aerosol over the remote southeast pacific: oceanic and combustion sources

Terai, C.: Cold pools and aerosols under stratocumuli (1)

Terai, C.: Susceptibility of drizzle in stratocumulus to aerosol perturbations (2)

Wang, Y: Improved representation of boundary layer clouds over the Southeast Pacific in WRF – ARW using a modified Tiedtke cumulus parameterization scheme

Wilcox, E.: Evaluation of satellite lower-tropospheric humidity retrievals and relationships with boundary layer clouds

Zuidema, P.: Aircraft millimeter-wavelength retrievals of cloud liquid water path during VOCALS